A Report
On Industrial Visit of
8 MLD STP at BrahmpuriJaipur

Session 2019-2020

Department of Civil Engineering

February 2020

Aim: -

The objective of the Industrial visit was to acknowledge the student about Sewage treatment plant and to give them practical knowledge about how the sewage water is being treated These days and is being used in agriculture. By this, they will be able to solve the common engineering problem related to treatment of water occur in an Engineer's life. Industrial Visit is considered as one of the tactical methods of teaching interaction, working methods and employment practices, Moreover, it gives exposure from academic point of view. Main aim of industrial visit is to provide an exposure to students about practical working environment. They also provide students a good opportunity to gain full awareness about engineering practices. Through these visits the students get awareness about new technologies. By these practices they can share their knowledge with their colleagues.

Overview:-

Department of Civil Engineering of Jaipur Engineering College and Research Centre Organised this visit to the Sewage treatment Plant on the 6th February 2020, at Brahmpuri Jaipur for the third-year students of Civil Engineering Batch A.

The Sewage treatment Plant named as 8 Million Liters per day Sequential Batch Reactor Sewage treatment Plant Brahmpuri is was established in 2019 with an objective of treating water By PHED Rajasthan.

Group Photograph of the students with officials

About:-

The Sewage treatment Plant is the plant constructed to dispose the municipal and industrial waste water for its reuse and to reduce the consumption of the pure water than usual which helps to save the environment. The 8MLD STP was a small plant with the limit of treating 8 million liters of waster water per day which connects its lines with the Jaisinghpura STP and takes the 8 Million liters of inlet from it and let the rest of 60 million waster water lead to the Jaisingpura STP It works on Solar energy as there are lot of Solar panel are installed. Like every other STP it has two equipment for each process.

Group Picture of Students with officials at the Sewage Treatment Plant

Salient Features of 8 MLD STP

S.No	Particulars	Details
1	Capacity	8 Milliion Liters per day
2	Technology used	Sequential Batch reactor
3	Process	Activated Sludge process with anaerobic digester and centrifuge unit
4	Design of Flow on main Sewer	50 Million liters per day

Methodology: -

Folllowing Methods were carried on the plant

a) **Screening:-**screening is the first unit operation used at STP to remove objects such as paper plastics etc. There were processes of screening named as : Coarse Screening and fine

Screeing

In Coarse screeing the size of the screen was 20 mm wide. Weather In fine screening the size of the screen was 10mm.

b) **Pumping:-**sewer pumping is used to move sewage water to higher level in order to allow transport of sewage by gravity flow.

c) **Grit Separator:-**the grit is seperated by the grit seperator which is the part of primary treatment unit. After the screening the water is pumped to the higher level and after that fall of the water is provided so that the heavy particles like grit should be placed in the lower part and then the grit seperator seprate the grit from the sewage water and water is allowed to pass from the top of it.

d) **Parshall Fluming: -**after the seperation of grit, the water is passed for the further treatment but the velocity of water need to be constant for that a parshall flume is required for maintaining the velocity of water and it is transferred to the sedimentation tank.

e) **Aeration:-**in the Aeration process the water is passed into a sedimentaiton tank and then the oxygen is transferred in the water to remove the sludge by bacteria. This process takes place for about 140 minutes. In this process the Aeration stops and starts for several times to maintain the amount of oxygen into the water (2.1mg/l).

Aeration Process at the sewage treatment plant

f) **Sedimentation:-**After Aeration the water is allowed to settle down and the process of sedimentation takes place for about 33 minutes and the sludge is settled down to the surface.

g) **Decantation:-**in the decantation process the sedimented water is allowed to flow from the top surface for about 1.5 meters from top without distubing the setteled sludge and then the water is supplied.

Uses of Treated Water:-

- This can be used in Ponds .
- This is mostly used in agriculture as the plant get their nutrients from it.

Conclusion:-

By this visit students learnt methods to clean water by SBR technology and they learnt various methods at different stages of cleaning and how we can use the waste water as a Recycling material.